Mitigation Evaluation Project: Overview of Data Collection and Research Design

The data collection process was performed through site visits in which reviewers examined selected Habitats and wetlands using a number of pre-established evaluation criteria, and answered pre-formulated questions using the mitigation evaluation data sheet. Since it was not feasible to visit all 958 sites, a subset (sample) of these 958 cases was carefully selected in order to allow reliable statistical inferences about all the sites.

The sites were stratified/grouped as follows: Habitats Type I, Habitats Types II & III, and wetlands (all types). Habitat Type I permits were separated because they tended to be reviews where County staff worked with "mom & pop" applicants to develop plans. Both of the other strata used plans formulated by professional consultants and included guaranteed access to the mitigation site through conservation covenants or public ownership.

Sites within the third strata (wetlands) were randomly selected for site visits, since they did not require owner permission before inspection. However, Habitat Type I sites and part of the Habitat Type II sites required owner permission.

The survey design relies on stratified simple random sampling, with probability weight adjustment for non-response bias. Since the sample includes a smaller proportion of sites that did not respond or denied permission (basically, only those sites that could be observed from a public place), but it includes most of the sites that agreed to be visited, the probability weights were adjusted in order to place larger weight on the first and smaller weight on the latter.

For sites that required permission (Habitat Type I and part of Habitat Type II), each probability weight was calculated as the inverse of the selection probability in the sample for sites that agreed to the visit, sites that did not respond, and sites that denied permission. For Habitat Types II & III that did not require permission, and for wetlands, the probability weight is simply the inverse of the selection probability, calculated by dividing the total population by the number of sites in the sample.

Table 1 shows the population and sample sizes for each strata.

Table 1. Population and sample sizes

Strata #	Cases	Total N (population)	Total n (sample)
1	Habitats Type I	439	135
2	Habitats Type II & III	97	62
3	Wetlands (all types)	422	146

Within the first strata, there were 439 Type I Habitat cases. All these cases required permission before site inspection. 55 cases granted permission and all 55 were visited; 31 sites denied permission, of which 3 were observed from a public place without

entering the property. 353 Type I Habitat applicants did not respond, 77 of these cases were observed from a public place without entering property.

Within the second strata, there were 97 Type II & III Habitat cases. Of these, 30 Type III Habitat cases did not need permission, and 25 were visited. There were 44 Type II Habitat cases that did not require permission, 27 were randomly selected for a site visit. Lastly, there were 23 Type II Habitat cases that required permission, 1 of which granted permission and was visited; 2 denied permission, and 1 was observed from a public place without entering the property; and 20 did not respond, 8 of which were observed from a public place without entering the property.

Within the third strata, there were 422 wetlands, none of which required permission. Sites were randomly selected and 146 were observed.

All population estimates and confidence intervals are based on the stratified survey design with adjusted probability weights as described above. Correlations between variables are measured using $\chi 2$ tests of association with Rao-Scott corrections; all p-values reported are based on these tests of association.